

No.

200200271



# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Hickseed West, Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE FOREGOING PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

BLUEGRASS, KENTUCKY

'Moonshadow'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this seventh day of September, in the year two thousand and seven.

Attest:

Commissioner  
Plant Variety Protection Office  
Agricultural Marketing Service

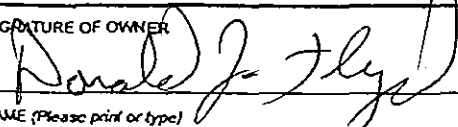
Secretary of Agriculture

2 U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE  
(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF OWNER Pickseed West, Inc.		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME Pick 113-3	3. VARIETY NAME Moonshadow
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) 30190 Hwy 34 SW Albany, OR 97321 USA		5. TELEPHONE (include area code) 541-967-0123	FOR OFFICIAL USE ONLY PVPO NUMBER 200200271 FILING DATE September 24, 2002
		6. FAX (include area code) 541-967-6103	
7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) Corporation	8. IF INCORPORATED, GIVE STATE OF INCORPORATION Oregon	9. DATE OF INCORPORATION 1968	
10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers) Donald J. Floyd, Ph.D. Pickseed West, Inc. 30190 Hwy 34 SW Albany, OR 97321			FILING AND EXAMINATION FEES: F E E S R E C E I V E D DATE 9/24/2002 CERTIFICATION FEE: \$ 768.00 DATE 7/27/2007
11. TELEPHONE (Include area code) 541-967-0123	12. FAX (Include area code) 541-967-6103	13. E-MAIL dfloydpswres@proaxis.com	14. CROP KIND (Common Name) Kentucky bluegrass
15. GENUS AND SPECIES NAME OF CROP Poa pratensis		16. FAMILY NAME (Botanical) Poaceae	17. IS THE VARIETY A FIRST GENERATION HYBRID? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
18. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse) a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of Variety d. <input type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional) e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership f. <input checked="" type="checkbox"/> Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository) g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$2,450), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)		19. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? See Section 83(a) of the Plant Variety Protection Act <input type="checkbox"/> YES (If "yes", answer items 20 and 21 below) <input checked="" type="checkbox"/> NO (If "no," go to item 22)	
		20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
		21. IF "YES" TO ITEM 20, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED	
22. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.)		23. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.)	
24. The owners declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate. The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act. Owner(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.			
SIGNATURE OF OWNER 		SIGNATURE OF OWNER	
NAME (Please print or type) Donald J. Floyd		NAME (Please print or type)	
CAPACITY OR TITLE Director of Research	DATE 9-9-02	CAPACITY OR TITLE	DATE 1.

## INSTRUCTIONS

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**GENERAL:** To be effectively filed with the Plant Variety Protection Office (PVPO), ALL of the following items must be received in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to reproduce the variety, or for tuber reproduced varieties verification that a viable (in the sense that it will reproduce an entire plant) tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for \$2,400 (\$300 filing fee and \$2,100 examination fee), payable to "Treasurer of the United States" (See Section 97.6 of the Regulations and Rules of Practice.) Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfilled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 500, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. DO NOT use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of \$300 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

Plant Variety Protection Office

Telephone: (301) 504-5518

FAX: (301) 504-5291

Homepage: <http://www.ams.usda.gov/science/pvp.htm>

## ITEM

- 18a. Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method; (2) the details of subsequent stages of selection and multiplication; (3) evidence of uniformity and stability; and (4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified
- 18b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:
- (1) identify these varieties and state all differences objectively;
  - (2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
  - (3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness
- 18c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 18d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 18e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.
19. If "Yes" is specified (seed of this variety be sold by variety name only, as a class of certified seed), the applicant MAY NOT reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (See Regulations and Rules of Practice, Section 97.103).
22. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.
23. See Section 5.5 of the Act for instructions on claiming the benefit of an earlier filing date.
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22. CONTINUED FROM FRONT (Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)
- First sale of 'Moonshadow' was January 21, 2002 to Delalio Sod Farm, New York, USA.
- 
23. CONTINUED FROM FRONT (Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)

**NOTES:** It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. There is no charge for filing a change of address. The fee for filing a change of ownership or assignment or any modification of owner's name is specified in Section 97.175 of the regulations. (See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)

To avoid conflict with other variety names in use, the applicant must check the variety names proposed by contacting: Seed Branch, AMS, USDA, Room 213, Building 306, Beltsville Agricultural Research Center-East, Beltsville, MD 20705. Telephone: (301) 504-8089.

Public reporting burden for this collection of information is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Agriculture, Clearance Officer, OIRM, AG Box 7630, Jamie L. Whitten Building, Washington, D.C. 20250. When replying, refer to OMB No. 0581-0055 and form number as you hold. Under the PRA of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

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## Exhibit A

### Origin and Breeding History of *Moonshadow* Kentucky Bluegrass

*Moonshadow* Kentucky bluegrass (*Poa pratensis* L.) originated as a single, highly apomictic plant selected from the progeny of 90-2212-2 x C-74. Plant 90-2212-2, the maternal parent of *Moonshadow* is a moderately apomictic plant selected from the open-pollinated progeny of Warren's A-25 x Blacksburg in June, 1984. Warren's A-25 Kentucky bluegrass is a vigorous, very aggressive selection with a medium-green color, good turf performance, and good resistance to the leaf-spot and melting-out disease [caused by *Drechslera poae* (Baudys) Shoem.], and stripe smut [caused by *Ustilago strüjormis* (Westend.) NieseL]. Blacksburg Kentucky bluegrass was selected from a closely mowed turf near Blacksburg, VA. It is a highly apomictic, dark green, compact, turf cultivar. It has good resistance to stripe smut and melting out diseases. Plant 90-2212-2 is a very dark green turf-type Kentucky bluegrass selection.

C-74 (the paternal parent of A95-439, or *MoonShadow*) is a compact, turf-type selection of Kentucky bluegrass selected from an old lawn owned by Conrad Richard Skogley and located near Kingston, RI. C-74 and two similar Kentucky bluegrasses, C-76 and C-78, were selected from this lawn prior to 1987 and sent to Pure-Seed Testing (PST) of Hubbard, OR for evaluation. PST subsequently blended the progenies of C-74, C-76, and C-78 to produce the cultivar 'Unique' Kentucky bluegrass.

Propagules of C-74 and plant 90-2212-2 were removed from a spaced-plant nursery at the Plant Science Research Farm of Rutgers University, Adelphia, NJ during the winter of 1992. They were transferred to pots in a cool greenhouse on the campus of Cook College, Rutgers University, New Brunswick, NJ. Daylength was extended to promote flowering, and conditions were established to increase sexual reproduction of facultatively apomictic Kentucky bluegrasses. During anthesis propagules of plant 90-2212-2 were mass-pollinated with C-74 during each night between the hours of 11:00 p.m. and 7:00 a.m. Promising hybrids were selected during the short-days and cool temperatures of the winter of 1993-1994 in a greenhouse at Adelphia, NJ. Hybrids were selected based upon having improved foliage color that was darker blue-green than exhibited by the parents. Hybrids were also selected based on showing finer leaf texture and an improved tolerance to powdery mildew (caused by *Erysiphe graminis* DC). Plants selected from approximately 1,500 selected seedlings from the cross 90-2212-2 x C 74 were established in a spaced-plant nursery at Adelphia during the spring of 1994. Plant 93-113-3 was selected from these progeny on June 26, 1995. Thirty-four grams of seed was harvested from this plant. Seed from this plant was used to establish plot A95-439 at Adelphia in September 1995. Twenty-four seedlings were also planted in a spaced-plant nursery at Adelphia (rows 95-3870 and 95-3871). All 24 plants appeared to be genetically identical to each other, and to their maternal parent. This indicated a high level of apomictic reproduction. Seed harvested in 1996 was used to establish replicated turf trials at both Adelphia and North Brunswick, NJ during September 1996. In 1997, 6.7 pounds of breeder seed was harvested from rows 96-5101 through 96-5118. Ten additional pounds of breeder seed was also produced in 1998 from Adelphia nursery rows 97-2551 through 2575. These progeny rows showed that A95-439 is a facultative apomictic with over 95% of its progeny appearing genetically identical to the maternal parent.

Aberrant plants produced by A95-439 are typical of aberrants produced by most cultivars of Kentucky bluegrass; being smaller and weaker than the maternal-type plants originating

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through apomictic reproduction. Due to the facultative apomictic characteristic of Kentucky bluegrass, these aberrants can be expected to occur whenever seed is produced. Most aberrants exhibit obvious morphological differences from the maternal plants in terms of size, growth habit, color, leaf texture, maturity, and panicle characteristics. Nearly all aberrants are crowded out in lawn-type turf and have virtually no affect on appearance, uniformity, or performance of established turf

A95-439 is a stable and uniform variety. Any aberrant plants are nearly always much smaller and weaker than the maternal plant and less competitive in both seed fields and mowed turfs. The frequency of aberrant plants in seed production fields has been observed to be less than 5%. This frequency has been consistent for all seed multiplications (years) since the original breeder seed was produced in 1997. To assure uniformity, variants and off-types are rogued from breeder nurseries and seed stock fields.

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**Exhibit B**  
**Statement of Varietal Distinctness**  
***Moonshadow* Kentucky bluegrass**

*Moonshadow* Kentucky bluegrass is morphologically most similar to the cultivar *Explorer*. *Moonshadow* can be separated from *Explorer* by its expression of a moderate nodding panicle growth habit. *Explorer* expresses a moderate upright panicle growth habit (Table 1). *Moonshadow* expresses pubescent leaf margin hairs, while *Explorer* does not. *Moonshadow* also has hairs under the leaf collar while *Explorer* lacks such hairs.

Table 1. Mature panicle growth habit for Kentucky bluegrass cultivars observed for two growing seasons in western Oregon. †

Cultivar	Panicle habit‡	
	1998	1999
<b>Moonshadow</b>	<b>6</b>	<b>5</b>
Explorer	8	7
America	7	5
Midnight	7	5
Langara	6	5
Baron	7	7
Touchdown	7	7
Ram I	8	7
Julia	6	6
LSD@0.05	1	1

† Sixty twelve week old individuals from each cultivar were spaced planted at 45 cm within rows established in a RCB design with three rows (replications) representing each cultivar at a field location of the research facility of Pickseed West, Inc., Albany, OR. The experiment was established in November 1997, and data was collected during the spring seasons of 1998 and 1999 from first and second year old plants, respectively. Fifty pounds/acre of N-P-K were applied at the time of trial establishment. Fifty pounds/acre of N were applied in early March and again in early April during the growing seasons of both 1998 and 1999.

‡ Panicle habit scored using the following subjective scale: 1 = nodding, 5 = moderate nodding, 9 = erect.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this collection of information is (0581-0055). The time required to complete this information collection is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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**U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
SCIENCE AND TECHNOLOGY PROGRAM  
PLANT VARIETY PROTECTION OFFICE  
BELTSVILLE, MD 20705**

**EXHIBIT C  
(BLUEGRASS)**

**200200271**

**OBJECTIVE DESCRIPTION OF VARIETY  
BLUEGRASS  
(*Poa* spp.)**

<b>NAME OF APPLICANT(S)</b>	<b>TEMPORARY DESIGNATION</b>	<b>VARIETY NAME</b>
Pickseed West, Inc.	Pick 113-3	Moonshadow
<b>ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code)</b>		<b>FOR OFFICIAL USE ONLY PVPO NUMBER</b>
30190 Hwy 34 SW Albany, OR 97321		<b>200200271</b>

Select the number which characterizes the variety in the features described below. For measured characteristics use leading zeros as necessary in order to fill all blanks (e.g. 089). Those characteristics marked with a star \* are preferred to be recorded. Any others should be recorded to help establish novelty or uniqueness. Characteristics described, including numerical measurements, should represent those that are typical for the variety. Measured data should be for SPACED PLANTS. Royal Horticultural Society or any recognized color fan may be used to determine plant colors; designate the system used: 1-9 subjective turf scale Describe location of test area, conditions, and number of Plants used: Morphological descriptors measured off of spaced plants in 1998, Albany, OR. (unless noted). For turf traits data taken from NTEP.

**1. SPECIES:**

☒ 1 = *Poa compressa*      2 = *P. pratensis*      3 = *P. trivialis*      4 = Others (Please Specify): \_\_\_\_\_

☐ ☐ ☐ Chromosome Number

**2. ADAPTATION: (0 = Not Tested, 1 = Not Adapted, 2 = Adapted, 3 = Well Adapted)**

☒ Northeast      ☒ Transitional Zone      ☐ Southeast      ☒ North Central

☒ Pacific N.W.      ☒ Intermountain      ☐ Southwest (CA, AZ)      ☒ Other (Please Specify): Great Plains

**3. MATURITY (At first anthesis): Give test area**

\* ☒ 1 = Very Early      2 = Early (Delta, Mystic)      3 = Medium Early (Fylking, Nugget)  
4 = Medium late (Newport, Adelphi, Aquila)      5 = Late (Merion, Baron, Enmundi)  
6 = Very Late (Pacific)

May 29 Date of First Anthesis

<input type="checkbox"/> <input type="checkbox"/>	Number of days earlier than	* <input type="checkbox"/>	}	1 = Nugget	2 = Frylking	3 = Delta
	Maturity same as	* <input checked="" type="checkbox"/> 1		4 = Merion	5 = Newport	6 = Baron
<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Number of days later than	* <input type="checkbox"/> 0		7 = Mystic	8 = Sabre	9 = Reubens
				10 = America	11 = Adelphi	



4. PLANT HEIGHT (At maturity-Average of longest shoot of 10 plants from soil surface to top of panicle): *Test Area* Albany, OR

★1

1 = Short  
3 = Medium tall (Merion, Adelphi)

2 = Medium short (Baron, Fylking, Mystic)  
4 = Tall (delta) 5 = Very tall

★049

cm Height

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19

cm Shorter than

★11

Height same as

★6

16

cm Taller than

★1

1 = Nugget 2 = Frylking 3 = Delta

4 = Merion 5 = Newport 6 = Baron

7 = Mystic 8 = Sabre 9 = Reubens  
10 = America 11 = Adelphi

5. GROWTH HABIT:

★2

Habit: 1 = Prostrate (Nugget) 2 = Semiprostrate (Merion) 3 = Erect (Delta)

037

cm Amount of spread by rhizomes in 1 year (give test area 1999, Albany, OR)

6. LEAF BLADE:

★

Green color: 1 = Light green (Mystic)  
3 = Moderately dk. green (Merion, Adelphi)

2 = Medium green (Fylking, Bonnieblue)  
4 = Very dk. green (Nugget, Glade, Enmundi)

★3

Bluegreen color: 1 = Not bluegreen (Mystic, Touchdown, Parade)  
3 = Bluegreen (Nugget, Enmundi, Adelphi) 2 = Moderately bluegreen (Merion, A-34)  
4 = Strongly bluegreen (Majestic)

3

1999 Albany, OR

Winter color: 1 = Light green 2 = Dark green 3 = Light purple  
4 = Dark purple 5 = Not purple 6 = Not green or purple

★2

1999 Albany, OR  
Hairs upper side:

1 = Absent (Nugget) 2 = Sparse (Merion) 3 = Dense (Park)

1

Hairs lower side:

1 = Absent (Fylking, Merion) 2 = Sparse 3 = Dense (Nugget)

2

Luster upper side:

1 = Shiny (Eclipse, Enmundi) 2 = Dull (Aquila, Parade)

1

Luster lower side:

1 = Shiny (Mystic, Enmundi) 2 = Dull (Barbie, Eclipse)

★2

Margin hairs

(Fringe on Margin or Base):

1 = Absent (Delta) 2 = Present (Fylking, Merion)

★2

Width: 1 = Very fine (Mystic) 2 = Fine (Nugget)  
4 = Broad (Adelphi, Baron)

3 = Medium (Merion, Fylking)  
5 = Very broad (Monopoly)

03

mm Width (flag leaf)

01

mm Narrower than

★6

Width same as

★11

00

mm Wider than

★

1 = Nugget 2 = Frylking 3 = Delta

4 = Merion 5 = Newport 6 = Baron

7 = Mystic 8 = Sabre 9 = Reubens

10 = America 11 = Adelphi

016

mm Length (flag leaf)

02

mm Shorter than

★6

Length same as

★10

1 = Nugget 2 = Frylking 3 = Delta

4 = Merion 5 = Newport 6 = Baron

04

mm Longer than

★1

7 = Mystic 8 = Sabre 9 = Reubens  
10 = America 11 = Adelphi

2

Position of flag leaf (angle to stem):

1 = Appressed

2 = Open angle, yet stiff

3 = Nodding

## 7. LEAF SHEATH:

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[9][9] mm sheath length

- ★[1] Seedling Color (base of sheath): 1 = Green (Nugget, Merion) 2 = Red (Delta)
- ★[1] Hairs on Margin: 1 = Absent (Fylking) 2 = Present (Nugget)
- ★[1] Margin Roughness (to touch): 1 = Smooth (Delta) 2 = Rough (Sabre)
- [1] Hairs on Surface: 1 = Absent ( ) 2 = Present (Nugget)
- [1] Surface Roughness (to touch): 1 = Smooth (Fylking) 2 = Rough (Ram I)
- [2] Hairs on both sides just beneath leaf blade (under collar): 1 = Absent (Merion) 2 = Present (Nugget)
- ★[1] Hairs on ligule: 1 = Absent (Fylking) 2 = Short (Baron) 3 = Long (Nugget)
- [1] Glaucoity: 1 = Absent (Mystic, Enmundi) 2 = Present (Birka)
- [2] Keel: 1 = Absent (Ram I) 2 = Present (Adelphi)

## 8. PANICLE (Mature Plant):

[9][8][7] mm Length (Lowest branch whorl to top, for 10 plants) Test Area: Albany, OR

- [0][2][4] mm Shorter than ★[1] 1 = Nugget 2 = Frylking 3 = Delta
- Panicle same as ★[6] 4 = Merion 5 = Newport 6 = Baron
- [0][2][1] mm Longer than ★[1] 7 = Mystic 8 = Sabre 9 = Reubens
- 10 = America 11 = Adelphi
- ★[1] Color (at 50% flowering): 1 = Not red (Fylking) 2 = Red (Nugget)

1999 Albany, OR

- [1] Shape of Rachis (opposite lower side branches): 1 = No bend (Nugget) 2 = Bend (Merion)

- ★[2] Collar: 1 = Opened (Nugget) 2 = Closed (Merion)
- 1999 Albany, OR

- ★[2] Branches Attitude (Lowest whorl): 1 = Drooping (America, Prato) 2 = Horizontal (Merion) 3 = Ascending (Tundra)

- [4] Number of main branches in lowest whorl:

- ★[2] Panicle habit: 1 = Nodding (Newport) 2 = Upright (Nugget)

- ★[1] Panicle type: 1 = Open 2 = Intermediate 3 = Compact

- [1] Anther color (anthesis): 1 = Purple 2 = Yellow 3 = Brown

.7% Yellow, 93% white/purple

## 9. LEMMA

- ★[1] Keel 1 = Glabrous 2 = Slightly pubescent 3 = Pubescent
- ★[2] Marginal Nerves 1 = yes 2 = no
- [2] Intermediate Nerves: 1 = Distinct 2 = Obscure
- [1] Basal Webbing: 1 = Absent 2 = Scant (Baron) 3 = Copious (Merion)

## 10. SEED: (Floret-not dehulled)

- ★[1] Apomixis Percentage: 1 = more than 95 2 = 85 to 95 3 = less than 85

## 10. SEED (Continued)

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☐ Phenol Reaction: 1 = none-lemma removed (Merion)  
4 = Black (Mystic -2hrs)

2 = Beige (Cougar) 3 = Brown (Windsor)  
5 = Black (-24hrs)

mm Width (average of 10)    mm Length 1999 Albany, OR  
10 seeds

Milligrams per 10,000 seed

Milligrams less than

Weight same as

Milligrams more than

Weight Class (g per 10,000 seed): 1 = Light (< 3g Sydsport, Merion)  
2 = Medium (3g - 4g Adelphi, Parade)  
3 = Heavy (> 4g Fylking, Nugget)

★   }  
★   }  
★   }

1 = Nugget 2 = Frylking 3 = Delta  
4 = Merion 5 = Newport 6 = Baron  
7 = Mystic 8 = Sabre 9 = Reubens  
10 = America 11 = Adelphi  
12 = Langara

## 11. ENVIRONMENTAL RESISTANCE:

(0 = Not Tested; 1 = Very Susceptible, 2 = Moderately Susceptible, 3 = Moderately Resistant, 4 = Highly Resistant)

Cool Temperature (Winter color)  Cold (injury)  Heat  Drought  
 Shade  Low Fertility  Acid Soil  Alkalinity  
 Salinity  Soil Compaction  Poor Drainage  Air Pollution  
 Other (Please Specify): \_\_\_\_\_

## 12. DISEASE RESISTANCE:

(0 = Not Tested; 1 = Very Susceptible, 2 = Moderately Susceptible, 3 = Moderately Resistant, 4 = Highly Resistant)

Melting-Out *Drechslera poae* (*Helminthosporium vagans*)  Sclerotinia *S. borealis*  
 Helminthosporium Leaf Spot *Bipolaris sorokiniana*  Stem Rust *Puccinia graminis*  
 Brown Patch *Rhizoctonia solani*  Stripe Rust *P. striiformis*  
 Powdery Mildew *Erysiphe graminis*  Leaf Rust *P. poae-nemoralis*  
 Stripe Smut *Ustilago striiformis*  Orange Stripe Rust *P. poarum*  
 Flag Smut *Urocystis agropyri*  Pythium Blight *Pythium* spp.  
 Pink Snow Mold *Fusarium nivale*  Red Thread *Corticium fujiforme*  
 Ergot *Claviceps purpurea*  Other (Please Specify): crown rust  
 Fusarium Blight *Fusarium roseum*, *F. tricinctum*  Other (Please Specify): \_\_\_\_\_  
 Typhula Blight *Typhula* spp.  
 Dollar Spot *Sclerotinia homoeocarpa*

## 13. INSECTS, NEMATODES, RESISTANCE:

(0 = Not Tested; 1 = Very Susceptible, 2 = Moderately Susceptible, 3 = Moderately Resistant, 4 = Highly Resistant)

Chinch Bug *Blissus* spp. (give species: \_\_\_\_\_)  
 Sod Webworm *Crambus* spp. (give species: \_\_\_\_\_)

## 13. INSECTS, NEMATODES, RESISTANCE (Continued)

☐ Bluegrass Billbug *Sphenophorus parvulus*

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☐ White Grub: Japanese Beetle, Chafers (give species \_\_\_\_\_)☐ Greenbug Aphid *Schizaphis graminum*☐ Other (Please Specify): \_\_\_\_\_☐ Other (Please Specify): \_\_\_\_\_

14. Give variety or varieties that most closely resemble the application variety. For the following characteristics indicate Degree of Resemblance by placing in the column marked D.R., one of the following numbers: 1 = Application variety is less than comparison variety; 2 = Same as; 3 = More than, better, greater, darker, more disease resistant, etc.

CHARACTER	VARIETY	D.R.	CHARACTER	VARIETY	D.R.
Maturity-heading	America	3	Leaf Width	Blacksburg II	1
Height	Midnight	1	Leaf Color Spring	Blacksburg II	2
Seed Size	Baron	1	Leaf Color Summer	Blacksburg II	2
Seed Weight	Baron	1	Leaf Color Winter	Blacksburg II	2
Cold Injury sp. density	Blacksburg II	2	Drought	Blacksburg II	2
Heat summer den.	Blacksburg II	3	Disease** stem	Blacksburg II	2
Shade	Blacksburg II	2	rust		

\*\*Specify each disease evaluated.

## 15. ADDITIONAL DESCRIPTION

Describe all characteristics and conditions that cannot be adequately described in this form in Exhibit D.

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE**EXHIBIT E**  
**STATEMENT OF THE BASIS OF OWNERSHIP**

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) Pickseed West, INC.	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER Pick 113-3	3. VARIETY NAME Moonshadow
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country) 30190 Hwy 34 SW Albany, OR 97321	5. TELEPHONE (include area code) 541-967-0123	6. FAX (include area code) 541-967-6103
7. PVPO NUMBER <b>#200200271</b>		

8. Does the applicant own all rights to the variety? Mark an "X" in appropriate block. If no, please explain. ☒ YES ☐ NO9. Is the applicant (individual or company) a U.S. national or U.S. based company? ☒ YES ☐ NO  
If no, give name of country10. Is the applicant the original owner? ☐ YES ☒ NO If no, please answer one of the following:

a. If original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. national(s)?

☐ YES ☐ NO If no, give name of country

b. If original rights to variety were owned by a company(ies), is(are) the original owner(s) a U.S. based company?

☒ YES ☐ NO If no, give name of country

11. Additional explanation on ownership (if needed, use reverse for extra space):

Original owner is a U.S. University; Rutgers University, New Jersey. Pickseed West, Inc. has been granted marketing rights to 'Moonshadow' worldwide.

**PLEASE NOTE:**

Plant variety protection can be afforded only to owners (not licensees) who meet one of the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definition.

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 10 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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To file a complaint, write the Secretary of Agriculture, U.S. Department of Agriculture, Washington, D.C. 20250, or call 1-800-245-6340 (voice) or (202) 720-1127 (TDD). USDA is an equal employment opportunity employer.